AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Previously presented) A method of producing nitride based heterostructure devices comprising the steps of:

providing a substrate;

applying a first layer over the substrate wherein the first layer includes nitrogen;

applying a dielectric layer over the first layer wherein the dielectric layer includes silicon dioxide; and

applying a first contact disposed above and adjoining to the dielectric layer.

2. (Original) The method of claim 1, wherein the substrate includes one of the group comprising sapphire, silicon carbide, a spinel substrate and silicon.

3. (Original) The method of claim 1, wherein the first layer further includes a binary compound including one element of the group comprising group III elements.

4. (Original) The method of claim 1, wherein the first layer further includes a ternary compound including two elements of the group comprising group III elements.

5. (Original) The method of claim 1, wherein the first layer further includes a quaternary compound including three elements of the group comprising group III elements.

6. (Original) The method of claim 1, further comprising applying a second layer between the first layer and the dielectric layer wherein the second layer includes nitrogen.

7. (Original) The method of claim 6, wherein the first layer further includes a binary compound including one element of the group comprising group III elements and the second layer further includes a ternary compound including two elements of the group comprising group III elements.

8. (Original) The method of claim 6, wherein the first layer further includes a ternary compound including two elements of the group comprising group III elements and the second layer further includes a quaternary compound including three elements of the group comprising group III elements.

9. (Currently amended) The method of claim 1, further comprising:

applying a source contact and a drain contact to the first layer; and

wherein the first contact comprises a gate contact.

10. (Previously presented) A method of producing nitride based heterostructure devices comprising the steps of:

providing a substrate;

applying a first layer over the substrate wherein the first layer includes gallium and nitrogen;

applying a dielectric layer over the first layer wherein the dielectric layer includes silicon dioxide; and

applying a contact on the dielectric layer.

11. (Original) The method of claim 10, wherein the substrate includes one of the group comprising of sapphire, silicon carbide, a spinel substrate and silicon.

12. (Original) The method of claim 10, further comprising applying a second layer between the first layer and the dielectric layer wherein the second layer includes aluminum, gallium and nitrogen.

13. (Original) The method of claim 12, wherein the substrate includes one of the group comprising sapphire, silicon carbide, a spinel substrate and silicon.

14. (Original) The method of claim 12, wherein the first layer further includes aluminum and the second layer further includes indium.

Claims 15-23 (Cancelled)

24. (Previously presented) The method of claim 9, wherein the dielectric layer further contacts the source contact and the drain contact.

25. (Previously presented) A method of producing a nitride based heterostructure transistor, the method comprising:

providing a substrate;

applying a buffer layer on the substrate, wherein the buffer layer includes aluminum and nitrogen;

applying an active layer on the buffer layer, wherein the active layer includes gallium and nitrogen;

applying a barrier layer on the active layer, wherein the barrier layer includes aluminum and nitrogen;

applying a dielectric layer on the barrier layer, wherein the dielectric layer includes silicon dioxide; and

applying a first contact on the dielectric layer.

26. (Previously presented) The method of claim 25, wherein at least a portion of the barrier layer remains uncovered by the dielectric layer.

27. (Previously presented) The method of claim 26, further comprising:

applying a source contact on the barrier layer;

applying a drain contact on the barrier layer; and

wherein the first contact on the dielectric layer comprises a gate contact.

28. (Previously presented) The method of claim 27, wherein the dielectric layer further contacts the source contact and the drain contact.

29. (Previously presented) The method of claim 25, wherein the active layer comprises an insulating layer and an n-type layer on the insulating layer.

30. (New) The method of claim 6, wherein the second layer adjoins the first layer and the dielectric layer.

31. (New) The method of claim 12, wherein the second layer adjoins the first layer and the dielectric layer.